The Relationship between History Teacher's Competence in Using Digital History Resources and the Inculcation of Historical Thinking Skills

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Abstract
Inculcation historical thinking skills is influenced by the competence of history teachers using digital history resources. However, the inculcate of historical thinking skills in teaching history was found to be at a moderate level among history teachers. History teachers only use teacher-centered teaching strategies in teaching history. Therefore, history teachers need to increase their competence in the use of digital history resources. This study aims to determine the relationship between teacher competence in the use of digital history resources and the inculcation of historical thinking skills. The design of this study is a correlational survey study. The study respondents were 92 history teachers from primary schools. Study respondents were selected through a simple random purposive sampling technique. This study uses a questionnaire as a research instrument. The questionnaire was modified based on the objectives of the study and confirmed by history experts. The reliability value of this instrument is good. The results of this study shows that the competence of using digital history resources has a significant positive relationship with the inculcation of historical thinking skills among history teachers. Knowledge competence (r=0.75) in the use of digital history resources has a very high linear relationship significantly to the inculcation of historical thinking skills. Meanwhile, attitude competence (r=0.63) and skills competence (r=0.62) in the use of digital history resources have a positive linear relationship to the inculcation of historical thinking skills. However, the knowledge competence of using digital history resources contributes the most to the inculcation of historical thinking skills. Thus, the Malaysian Ministry of Education should run a course on digitization of education to improve the competence of history teachers to use digital historical resources. In conclusion, history teachers can achieve learning objectives through teaching methods that integrate historical thinking skills and digital history resources.
Keywords: Relationship, Teacher Competence, Digital History Resources, Inculcation of Historical Thinking Skills

Introduction
In 2014, history became a core subject for primary schools (Mansor & Khairul, 2015). The steps taken by the Malaysian Ministry of Education are dignify the knowledge of history. However, suitable reformation in teaching and learning required to achieve this aspiration.

History teachers need to teach History subject effectively and interestingly by using digital history resources.

However, the use of primary and secondary sources is at a low level in teaching and learning of History (Renuka & Siti, 2014). According to Arifin (2018), teacher still conduct teaching and learning history using textbooks. Teachers and students want to do research of historical sources in museums, archives and historical places. On the other hand, expenses and time are the main factors that prevent them from exploring historical sources. The study of Kaviza (2020) states that the competence of teachers in using digital history resources only reaches a satisfactory level. History teachers should use suitable digital resources based on the content to carry out an effective teaching and learning history.

In this era, history teachers need to be efficient in coping and adapting themselves with digital history resources. Therefore, digital historical resources are a substitute for acquiring historical resources found in museums or archives (Renuka & Siti, 2014). The use of these digital historical sources can avoid the complexity of finding historical sources from archives and museums. Digital history resources are produced through the digitization process in electronic form using historical resources (Renuka & Siti, 2014). In addition, digital history resources can increase students' interest in learning history as well as improve historical thinking skills (Kaviza et al., 2018). Therefore, this study is a step to identify the relationship between the inculcation of historical thinking skills and the efficiency of using digital historical resources.

Study Objectives
The aim of this study is to:
a. Identify the relationship between teacher competence in using digital history resources and the inculcation of historical thinking skills.
b. Identify the contribution of predictor variables which are knowledge competence, skills and attitude of using digital history resources with the inculcation of historical thinking skills.

Research Questions
This study was conducted to answer the following questions:
1. Is there a relationship between the competence of using digital history resources from the aspects of knowledge, skills and attitudes with the inculcation of historical thinking skills?
2. Is there a contribution of predictor variables that are knowledge competence, skills and attitude of using digital history resources with the inculcation of historical thinking skills?

Literature Review
Teacher Competences
Competence is the mastery of knowledge, skills and attitudes to do work (Zainuddin, 2019). Teacher quality standards can be measured through teacher competence, which is knowledge, skills, attitudes, and values. So, teachers should improve their competence in order to be able to educate students efficiently. According to Ahmad and Jinggan (2015), knowledge and teaching skills are very important for a teacher. The students gain knowledge and skills effectively through the competence of the teacher. Based on the statements of previous studies, the researcher summarize that teacher competence is related to the knowledge, skills and attitudes of teachers in their field of teaching. The competence of teachers needs to be constantly improved for the effectiveness of the learning and teaching process as well as being able to produce excellent students.

Digital History Sources

Digital historical resources are electronic tools that are widely applied by teachers and students in learning history. The development of digital history resources is very significant to support the teaching and learning of history. History education only uses printed sources. Therefore, reformation in history education occurs when history teachers start using digital history resources in teaching and learning (Benkler, 2006). Digitized primary sources and secondary sources such as artifacts, history texts and history photographs are digital history resources. Digital history resources help students to study, analyze, and explore the hidden meaning of historical evidence (Endacott, 2010). According to Bass (2003), the practice of historical thinking can produce students with historical knowledge like historians.

Historical Thinking Skills

Historical Thinking Skills need to be practiced in students through history subjects. Historical Thinking Skills is a thinking technique. Historical Thinking Skills contains principles formation techniques, concepts, understanding, decision making, problem solving, investigation, and merging (Nurhijrah, et al., 2018). Wineburg (2001) explains the process of thinking about the past is the skill of historical thinking. We can determine the change of place, figure and time through historical thinking skills. According to Wineburg (2001), students can carry out the activity of synthesizing and analyzing evidence from historical sources through historical thinking skills.

Students can understand a historical event through Historical Thinking Skills. Students can study, evaluate and formulate historical facts critically through Historical Thinking Skills. Malaysian Ministry of Education (2017) explains, Historical Thinking Skills needs to be given focus in teaching and learning history because students use historical evidence to understand how historians combine past events. Historical Thinking Skills can help students to identify the importance of a historical event. In addition, Historical Thinking Skills can inculcate critical and creative thinking in students. In short, historical thinking skills can help students to explore abstract and difficult facts based on the basic elements of history through the teacher as a facilitator (KPM, 2017).

Model of Technology Pedagogy and Content (TPACK)

This study is based on the Technology Pedagogy and Content Model (TPACK). TPACK was presented by Mishra and Koehler (2006) regarding the knowledge of Pedagogical Technology and Content (TPACK) which was built from the basic concept of knowledge built by Shulman (1986).
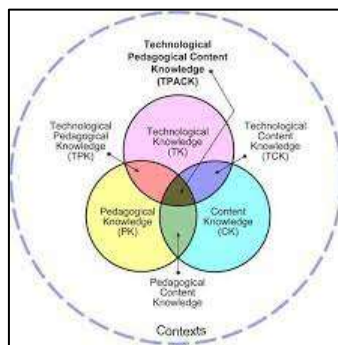

Figure 2.1 Pedagogical Technology Model and Content (TPACK) and TPACK Framework (Source: Mishra and Koehler, 2006)

The relationship between each knowledge is in accordance with the objective of this study which involves technological knowledge (TK). In addition, the objectives of this study have also been supported by elements of pedagogical technology knowledge and content (TPACK). Digital history resources are represented by technological knowledge referring to advanced or digital technology (TK) and Historical Thinking Skills are represented by subject content (CK).

Research Methods
The design of this study is a correlational survey study (Cresswell, 2014). This quantitative correlational study is in accordance with the purpose of this study. The researcher has used 92 primary school history teachers as respondents. The researcher has selected the respondents by using a simple random purposive sampling technique. In addition, the state of Kuala Lumpur was chosen as the location of the study because the researcher works in the state and it is easier to obtain the data from the respondents. The researcher used a questionnaire to answer the research questions.

This questionnaire has been modified and validated to obtain data for this study. Questionnaires from a survey on the Effects of Using Digital History Resources on Historical Thinking Skills by Renuka and Abdullah (2012) and a questionnaire on the Level of Implementation of Historical Thinking Skills in Teaching History Teachers from (Baharuddin, 2006) were modified. These questionnaire items have been adapted according to the objectives of this study. Five-point Likert scale was used in this questionnaire.

Table 3.1
Contents of the questionnaire

Section	Assessment Aspects	Total Questions	Answer Scale
A	Respondent Demographics	3 Questions	Many Choices
B	Competence of using Digital history Resources	24 Questions	Likert Scale
C	Inculcation of Historical Thinking Skills by History Teachers	27 Questions	Likert Scale
Total Questions		**55 Questions**	

The reliability value analysis for the competence of using digital history resource questionnaire shows a value of 0.95. In addition, the results of the reliability analysis for the questionnaire on the inculcation of historical thinking skills showed a value of 0.93. This reliability value is considered good and accepted by (Bond and Fox, 2015). The researcher used IBM SPSS software version 26 to analyze the questionnaire data. The researcher used the interpretation from Baba (1999) to interpret the strength of the correlation in this study.

Research Findings
Respondent Profile
The demographics of the respondents were divided into three aspects, namely gender, teaching experience and options. Table 1 shows the demographic analysis of the respondents.

A total of 92 out of 100 history teachers were selected. 23.9% (n=22) teachers out of the total number of respondents are male. 76.1% (n=70) female respondents were selected in this study. Majority of the respondents were teachers with teaching experience between 1-5 years which is 34.8% (n=32). The second largest group consists of teachers who have taught between 6-8 years by 43.5% (n=40). Only 21.7% (n=20) of teachers with 8 or more years of experience. In addition, 56.5% (n=52) of the total number of history option teachers and 43.5% (n= 40) are non-option teachers who teach history.

Table 4.1
Profile of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	22	23.9%
	Female	70	76.1%
Teaching	1-5 years	32	34.8%
Experience	6-8 years	40	43.5%
	8 years and above	20	21.7%
Option	History	52	56.5%
	Others	40	43.5%

Level of Teacher Knowledge of Using Digital History Resources
The findings of the questionnaire stated that the knowledge level of teachers in using digital history resources with the application of historical thinking skills is high. Furthermore, the results of this study show that the mean score is between 4.33 and 4.53 and the standard deviation is 0.519 to 0.564 which means the overall mean score of teachers' knowledge in using digital history resources is 4.43. Therefore, history teachers have knowledge of using digital history resources to a high degree. All items are at a high level. In sum, the highest mean score is item B1 which is 'I know how to use digital history resources' has (4.53). Item B4 which is 'I believe that digital history resources can help improve achievement and increase students' interest in history education' has the lowest mean score (4.33).

The Teacher's Attitude to Using Digital History Resources
The findings of the questionnaire showed a positive result towards the level of teachers' attitude in using digital history resources. The mean score value is between 4.32 and 4.48 and the standard deviation is 0.533 to .583. Therefore, the mean score of the overall level of teachers' attitude towards using digital history resources is 4.39. This shows that the teachers have a moderate level of attitude towards using digital history resources. All items are at high level. Out of all the items, item B14 'I believe digital historical resources help students focus on learning history' has a high mean score while item B12 'I use various digital historical resources for teaching dan learning history' has the lowest mean score. Therefore, the attitude of using history digital resources by history teachers has a high level.

Skills in Using Digital History Resources
Findings from the questionnaire stated that teachers' skills in using digital resources were at a significant level. The mean score value is between 4.14 and 4.59 and the standard deviation

is .689 to .517. The overall mean score of teachers' skills in using digital history resources is 4.43. Therefore, teachers have high skills in using digital history resources.

Inculcation of Historical Thinking Skills
The findings of the questionnaire show that the inculcation of historical thinking skills among history teachers is at a good level. In addition, the mean score value is between 4.36 and 4.58 and the standard deviation is .482 to 0.502. The overall mean score of the inculcation of historical thinking skills is 4.19. Therefore this study states that history teachers have a high level in the inculcation of historical thinking skills.

Analysis of the relationship between the knowledge of the use of digital history resources and the application of historical thinking skills.
The researcher answered the first research question by testing the research hypothesis (H1) as follows:
The null hypothesis (H_{o1a}) as follows has been formed to answer the first sub-question of the study, which is knowledge competence:
H_{o1a}: There is no significant relationship between the mean competence of knowledge of the use of digital history resources with the inculcation of historical thinking skills.
The results of the study have stated that the value of the Pearson coefficient and correlation between the mean competence of the knowledge of the use of digital history resources [r =0.75, p = 0.00] to historical thinking skills is positive. So, there is a significant positive linear relationship between the mean competency of using digital history resources to the inculcation of historical thinking skills. So, H_{o1a} has been successfully rejected.

Table 4.2
Correlation of the mean competence knowledge of the use of digital history resources with the inculcation of historical thinking skills

		History Thinking Skills
Knowledge Competence	Pearson Correlation	0.751**
	Sig	0.00
	N	92

*** Correlation is significant at the 0.01 level (2-tailed)*

Analysis of the relationship between skill competence in the use of digital history resources and the inculcation of historical thinking skills
The researcher answered the first research question by testing the research hypothesis (H1) as follows:
The null hypothesis (H_{o1b}) as follows has been formed to answer the first sub-question of the study, which is skill competence:
H_{o1b}: There is no significant relationship between the mean skill competency of using digital history resource and the inculcation of historical thinking skills.
The results of the study state that the value of the Pearson correlation coefficient between the mean skill competency of using digital history resources [r=0.62, p=0.00] to the inculcation of historical thinking skills is significant. Thus, there is a high positive linear relationship

between the mean skill competency of using digital history resources to the inculcation of historical thinking skills. Therefore, H_{o1b} was successfully rejected.

Table 4.3
Correlation of the mean skill competence of using digital history resource with the inculcation of historical thinking skills

		History Thinking Skills
Skill Competence	*Pearson Correlation*	0.62**
	Sig	0.00
	N	92

*** Correlation is significant at the 0.01 level (2-tailed)*

Analysis of the relationship between the attitude competence of using digital history resources with inculcation of historical thinking skills
The researcher answered the first research question by testing the research hypothesis (H1) as follows:
The null hypothesis (H_{o1c}) as follows has been formed to answer the first sub-question of the study, which is attitude competence:
H_{o1c}: There is no significant relationship between the mean attitude competency of using digital history resources with the inculcation of historical thinking skills.
The results of the study have reported that the value of the Pearson correlation coefficient between the mean attitude competence of using digital history resources [r=0.63, p=0.00] towards the inculcation of historical thinking skills is significant. Thus, there is a positive linear relationship between the mean attitude competence of using digital history resources to the inculcation of historical thinking skills. Therefore, H_{o1c} was successfully rejected.

Table 4.4
Correlation of the mean attitude competence of using digital history resources   with the inculcation of historical thinking skills

		History Thinking Skills
Attitude Competence	*Pearson Correlation*	0.63**
	Sig	0.00
	N	92

*** Correlation is significant at the 0.01 level (2-tailed)*

Analysis of the contribution of predictor variables, namely knowledge competence, attitudes and skills in using digital history resources with the inculcation of historical thinking skills
The researcher answered the second research question by testing the research hypothesis (H1) as follows:
The following null hypothesis (H_{O2}) was formed to answer the second research question:

H_{O2}: There is no significant predictor variable contribution which is the competence of knowledge, skills and attitude of using digital history resources with the inculcation of historical thinking skills.

Regression analysis includes three predictors namely knowledge competence, attitude competence, and skill competence. Next, the results of this study state that three predictors have a positive variant towards the inculcation of historical thinking skills with a significant value of 0.00 and it is less than the significance level value of 0.05 which is the value of F=71.473, and R=0.709. Therefore, the competence of knowledge, attitude and skills contribute as much as 70.9 percent to the inculcation of historical thinking skills. In short, when the predictors of knowledge competence, skill competence, and attitude competence increase by one percent, the score of applying historical thinking skills will increase by 0.709 percent.

Discussion
The relationship between teacher competence in using digital history resources and the inculcation of historical thinking skills.
The findings of this study state that the competence of history teachers in using digital history resources and the inculcation of historical thinking skills have a positive linear relationship in the process of teaching and learning history. The findings of this study are similar to the results of Kaviza (2019) which shows that the competence of using digital history resources is closely related to the inculcation of historical thinking skills by history teachers.

The relationship between the competence of teacher's knowledge in using digital history resources with the inculcation of historical thinking skills.
The results of this study show that history teachers have knowledge in using digital history resources. This finding supports the opinion of Renuka and Abdullah (2012) who stated that the limitation of the using digital history resources is related to the mastery of history digital resources among teachers. Therefore, the history teachers should prepare teaching aids with the knowledge of history digital resources. The study of Waring and Torrez (2010) expressed the knowledge of using digital history primary sources enable teachers to deliver historical content easily. The use of digital history primary sources will allow teachers to help students develop a historical perspective and improve historical thinking skills.

The relationship between the competence of teacher's attitudes in using digital history resources with the inculcation of historical thinking skills.
The findings of this study state that the level of attitudes towards the use of digital history resources has a positive relationship with the inculcation of historical thinking skills. This finding supports the study of Roslin and Salleh (2021) which shows that the process of teaching and learning history is effective if the teacher's attitude towards using digital history resources is at a positive level. The results of the study shows that the attitude competence of using digital history resources affects the inculcation of historical thinking skills. The attitude of history teachers using digital history resources has a significant relationship that can improve the inculcation of historical thinking skills. Lisa (2014) states that history teacher's attitudes affect the inculcation of historical thinking skills. The results of this study are similar to the findings of Kaviza (2020) which states that the attitude of using digital history resources has a positive relationship with the inculcation of historical thinking skills.

The relationship between the competence of teachers' skills in the use of digital history resources and the application of historical thinking skills.

In addition, the findings of this study show that the inculcation of historical thinking skills is influenced by skill competence of using digital history resources. Therefore, the results of this study support the findings of (Renuka and Abdullah, 2012). They stated that the skill of using digital history resources affects the inculcation of historical thinking skills. The findings of this study supports the TPACK Model. The Pedagogical Technology Knowledge Element is related to the skills of using digital history resources. Teachers need to have these skills to achieve learning objectives.

The results of this study are similar with the findings of Kaviza (2020) stating that the skill competence of using digital history resources has a high relationship with the inculcation of historical thinking skills. The findings of this study fill the gap for the literature highlights of Indah (2020) which states that teachers have skills in using digital resources in education at a high level. Indah (2020) states that digital resources provide opportunities for teachers to design history teaching materials that can improve the inculcation of historical thinking skills.

The contribution of predictor variables which are knowledge competence, attitudes competence and skill competence in using historical digital resources with the inculcation of historical thinking skills

The knowledge competence is a predictor in this study. This element contributes the most to the inculcation of historical thinking skills. Teachers have a high level of knowledge about digital history resources because they were given early exposure at school. For example, the history teacher have applied the software provided by the Malaysian Ministry of Education face-to-face and online courses. This finding supports the study of Intan et al (2021) which shows that respondents have a high level of mastery of digital resources. In addition, the results of this study contradict with the findings of Kaviza (2019) which shows that competence of attitude and knowledge contribute to the application of historical thinking skills. However, the findings of this study show only knowledge competence of using digital historical resources contribute to the inculcation of historical thinking skills.

Implications of the Study

This study is a step that contributes to the field of history to explain the inculcation of historical thinking skills and the use of digital historical resources. This study also helps history teachers to teach historical thinking skills as an important element in the process of teaching and learning history because this study improves the competence of teachers using digital history resources. Furthermore, the Curriculum Development Centre received guidance and feedback on the benefits of inculcating historical thinking skills and digital history resources through this study. This research provides input to the theory that underlies studies related to teacher competence. This study proves that the findings of this study support the TPACK model. In conclusion, this study shows that this model is still significant with the current situation.

Study Proposal

The findings of this study prove that the inculcation of historical thinking skills is influenced by the competence of history teachers in using digital history resources. Therefore, the Malaysian Ministry of Education, the State Education Department and the school need to ensure that history teachers achieve a high level of competence in using of digital history

resources. The authorities concerned should ensure that all history teachers can use and diversify the use of digital history resources.

Courses and programs related to the concept and use of digital history resources must be given to history teachers effectively. As a result, history teachers can improve their competence in using of digital history resources. School administrators need to strategize, implement, monitor and evaluate related activities continuously. Thus, history teachers can improve their competence in using of digital history resources. Furthermore, complete facilities for the process of teaching and learning history should be provided to history teachers. Finally, this study can be expected that the competence using digital history resources can be improved in teachers for the inculcation of historical thinking skills in their classes.

Conclusion

In conclusion, competence of using digital history resources from the aspects of knowledge, skills and attitudes has a positive relationship with the inculcation of historical thinking skills. Moreover, the knowledge competence is a predictor in this study. This element contributes the most to the inculcation of historical thinking skills. The results of this study have been recommended to be used as a guide for prospective researchers, history teachers, lecturers and the Malaysian Ministry of Education in an effort to inculcate historical thinking skills in students. Next, the researcher hopes that all history teachers have the competence of knowledge, attitudes and skills in digital history resources which helps to inculcate history thinking skills among the students. The influence of teacher competence in using of digital history resources needs to be increased for effective teaching and learning history. A quality and effective teaching and learning integrates with digital history resources can help to achieve the goals of history education as outlined in the Curriculum History.

References

Ahmad & Jinggan. (2015). Pengaruh Kompetensi Kemahiran Guru Dalam Pengajaran Terhadap Pencapaian Akademik Pelajar Dalam Mata Pelajaran Sejarah. JuKu: Jurnal Kurikulum & Pengajaran Asia Pasifik.

Arifin. (2018). Mengajar Dengan Buku Teks, Masih Perlukah? Sultan Maulana Hasanuddin Banten State Islamic University, 1-32.

Bass, R. (2003). Engines of inquiry: Teaching, technology, and learner centered approaches to culture and history [2 Jun 2022].

Benkler, Y. (2006). The wealth of networks. New Haven, CT: Yale University Press.

Bond, T. G., & Fox, C. M. (2015). Applying the Rasch Model Fundamental Measurement in the Human Sciences. (Routledge & T. & F. Group, Eds.) (Third Edit). New York & London.

Creswell, J. W. (2014). Research Design: Qualitative, Quantitative and Mixed Methods Approaches (4th ed.). Thousand Oaks, CA: Sage.

Endacott, J. (2010). Reconsidering affective engagement in historical empathy. Theory and Research in Social Education, 38(1), 6-49.

Indah, U. W. (2020). Pemanfaatan Digital History Untuk Pembelajaran Sejarah Lokal. Jurnal Pendidikan Sejarah Indonesia, 1-11. Kaviza, M. (2019). Hubungan antara kompetensi guru sejarah dalam penggunaan sumber sejarah dan penerapan kemahiran pemikiran sejarah. e-Bangi: Journal of Social Science and Humanities, 16(1), 1-13.

Kaviza. (2020). Pelaksanaan Kelas Flipped dengan Sumber Digital dalam Mata Pelajaran Sejarah: Kesannya Terhadap Kemahiran Pemikiran Sejarah. Journal of ICT in Education, 7(1), 30-42.

Kaviza. (2020). Pembelajaran Berasaskan Bahan dalam Mata Pelajaran Sejarah. Malaysian Journal of Social Sciences and Humanities, 149-156.

Kementerian Pendidikan Malaysia. (2017). Dokumen Kurikulum Standard Sekolah Rendah. Sejarah Tahun 5.

Lisa, Y. S. (2014). Kajian Tinjauan Kesediaan Guru-guru Sejarah Menerapkan Kemahiran Pemikiran Sejarah dalam kalangan muridmurid. Jurnal Penyelidikan Kent, 13, 37-49.

Mansor, M., & Khairul, B. G. (2015). Keberkesanan Mata Pelajaran Sejarah dalam Membina Etos Bangsa Generasi Muda di Malaysia. Jurnal Komunikasi Borneo Edisi Khas, 29-46.

Notanubun, Z. (2019). Pengembangan Kompetensi Profesionalisme Guru di Era Digital (Abad 21). Jurnal Bimbingan Dan Konseling Terapan, 3(2), 54.

Renuka, R., & Siti, H. A. (2014). Kesan penggunaan sumber sejarah digital terhadap kemahiran pemikiran sejarah. 23rd International Conference of Historians of Asia 2014 (IAHA2014), 23-32.

Roslin, N., and Salleh, N. (2021) "Penggunaan M-Learning Sebagai Bahan Bantu Pengajaran dalam Kelas Pendidikan Khas", *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 6(5), pp. 53 - 63.

Waring & Torrez. (2010). Using Digital Primary Sources to Teach Historical Perspective to Preservice Teachers. Contemporary Issues in Technology and Teacher Education. 10.

Wineburg, S. (2001). Historical Thinking and on The Unnatural Acts:Charting The Future of Teaching The Past. Philadelphia: Temple University Press.

Zakaria, S., & Amla. (2018). Pemupukan Kesepaduan Sosial Melalui Kurikulum Persekolahan di Malaysia.